

## **R e m a r k s**

### **Objection to Drawings**

The drawings have been objected to because the preprinted back surface recited in original claim 4 was not shown. Claim 4 has been amended to delete specific reference to preprinting on the back surface.

### **Clarifying Amendments**

The specification has been amended to delete a typographical error appearing in the first paragraph under the heading of "Brief Summary of the Invention". The number "30" has been deleted.

Claim 8 has been amended to clarify that it is the magnitudes of the first and second tensile forces required to burst the lines of perforation from different positions that are made more equal by the recited pattern of ties that are weaker next to the center of the web than next to either of the two edges. The reading of claim 8 is now clearer in keeping with its original intent. Support for the language is found on page 7, paragraph [0030], of the specification

Claim 14 has been amended to clarify its intended scope by deleting the phrase "during subsequent handling". As now amended, claim 14

requires the formation of ties in the specified pattern to provide for dispensing sheets from the web with reduced force while maintaining resistance to inadvertently breaking the web. The phrase "during subsequent handling" was intended to refer to handling after the perforations were made and before the perforations were intentionally broken upon dispensing. The revised claim language avoids an incongruous interpretation, where unintentional breaking is resisted subsequent to intended breaking upon dispensing. Thus, the meaning of claim 14 is clearer without the deleted qualifying phrase.

Neither change involves the addition of new matter.

### Obviousness Rejections

Five obviousness rejections have been raised against different groupings of claims, which include, in total, claims 1-7 and 14-22. Although different combinations of references support the rejections, all of the rejections are primarily based on a combination of US Patent 5,863,372 to Fabel in view of US Patent 6,368,689 to Connor Sledge et al. These two references are not properly combinable, and the remaining tertiary references do not cure the resulting deficiency for reaching the claimed invention.

Fabel discloses a method of producing booklets that starts with a web of fan-folded paper stock having longitudinal and transverse perforations. The web of paper stock is supported by edge strips on each side having

paper feed holes for gripping and advancing the web. The advancing web is printed, stripped of its edge strips, and then separated along the transverse lines of perforation into a stack of printed sheets. The separation occurs within a bursting station having differentially driven rollers that straddle a burster bar. The illustrated perforations are of the conventional type with an evenly spaced pattern of ties.

Connor Sledge et al. disclose a perforated centerflow rolled product in which perforated sheets are pulled from the center of a rolled web through a narrow opening in a product dispenser. To avoid the problems of streaming/roping of the centerflow products, Connor Sledge et al. suggest varying the perforation profile by having portions of different strength. One such profile includes stronger edge portions and a weaker middle portion.

For justifying the combination, the Examiner states that it would have been obvious to modify the invention as taught by Fabel to include the weak centerline and strong edges as taught by Connor Sledge et al. because Connor Sledge et al. teach "that it is efficient to provide stronger edges for reducing overall perforation defects with centerflow."

However, the teaching of Connor Sledge et al. regarding reducing overall perforation defects with centerflow is not applicable to the flat web processing of Fabel; and given Fabel's mechanical burster for separating flat taut sheets, no reason is apparent for fashioning the Fabel's perforations in

any unconventional pattern. Connor Sledge et al. explain in a passage at column 1, lines 41-44, that the material of centerflow products *"is bunched or gathered as it is pulled through the dispenser and the individual wipes or sheets are pulled apart with the material in this bunched condition."* They distinguish the problems of separating centerflow products from other perforated products that are flat or straight upon being separated by a consumer in the succeeding passage at lines 44-50 as follows:

*"Thus, the dynamics of the separating or tearing process along the perforation line defined on a centerflow product is fundamentally different from that of conventional bath tissue or paper towels wherein the product is unwound from the circumference of the roll and is typically in a flat or straight state upon being separated by the consumer."*

The web of Fabel is of the type that is separated in a flat or straight state. Connor Sledge et al. explicitly warn those with perforated webs of flat printed sheets like Fabel that the teachings pertaining to the perforations of centerflow products do not apply to their products. Thus, one of ordinary skill in the art is advised against looking to the teaching of Connor Sledge et al. regarding centerflow products for advice on the modification of the perforation patterns between Fabel's flat sheets.

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Even if Connor Sledge et al. had not explained that the perforation problems associated with centerflow products that are dispensed in a bunched condition do not pertain to the separation of perforated sheets in a flat state, Fabel would still not be motivated by anything in Connor Sledge et al. to modify his conventional perforation pattern to adopt a more complicated form because the problems experienced by centerflow products are not apparent in the automated bursting system disclosed by Fabel. Given the different problems faced, Fabel could not be expected to adopt the admittedly unrelated suggestions of Connor Sledge et al. with adequate assurance of success.

Neither reference (Fabel nor Connor Sledge et al.) deals with the problems dealt with by the subject invention relating to printing systems for printing and manually separating (dispensing) printed sections of webs. Fabel deals with flat web structures but uses automated burster rollers that are not subject to the variations of manual separations. Connor Sledge et al. deal with materials that experience their own problems associated with their separation in a bunched form.

None of the other tertiary references suggest the modifications to Fabel necessary to reach the claimed invention. US Patent 5,428,433 to Knopp et al. discloses a printer with a paper brake and a post-processing cutting device but makes no suggestions regarding perforations. In fact, if Fabel were to incorporate the cutter of Kopp et al. for post processing as suggested

by Kopp et al., Fabel would have no need for any perforations. US Patent 5,763,354 to Nagamoto is cited for disclosing a thermal printer with a linerless thermosensitive recording material, but also discloses a perforation pattern where the slits are longer than the ties. No suggestion is made for a perforation pattern that is weaker in the middle than the two sides. US Patent 5,562,964 to Jones discloses perforated rolled paper that has lowered bond strength at the edges to allow a user to more easily tear sheets along lines of perforation while reducing the number of "ears" left on the roll. The invention is concerned with reducing tensile forces required to tear lines of perforation but provides for resisting tearing initiated from the edges.

#### Allowable Subject Matter

Claims 8-10 are deemed to contain patentable subject matter but are objected to as being dependent upon a rejected base claim. Claim 8 is already in independent form, and claims 9 and 10 depend from independent claim 8.

Claims 11-13 stand allowed.

The Examiner is thanked for the careful consideration given to each of the claims.

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In view of the above, all of the pending claims 1-22 are believed in condition for allowance. Reconsideration of the rejected claims and allowance of all pending claims 1-21 are respectfully requested. For any questions on this response or the application, the Examiner is invited to contact applicants' representative at the telephone number given below.

Respectfully submitted,



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